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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,900	12/05/2006	Kris Vandermeulen	31118/DY0304	1250
4743	7590	11/19/2008		
MARSHALL, GERSTEIN & BORUN LLP 233 S. WACKER DRIVE, SUITE 6300 SEARS TOWER CHICAGO, IL 60606			EXAMINER	
			BANH, DAVID H	
			ART UNIT	PAPER NUMBER
			2854	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/580,900	<b>Applicant(s)</b> VANDERMEULEN, KRIS
	<b>Examiner</b> DAVID BANH	<b>Art Unit</b> 2854

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(o).

#### Status

- 1) Responsive to communication(s) filed on 05 December 2006.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 14-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 14-25 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 26 May 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1668)  
 Paper No(s)/Mail Date 5/26/2006
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 20 is objected to because of the following informalities: It is believed that a comma is necessary between the word "first frame" and "the driver" in line 2 of claim 20 to appropriately delineate the clauses. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 14, 15, 18 and 19 rejected under 35 U.S.C. 102(b) as being anticipated by Conner (US PG Pub 2002/0080223).

Conner teaches a print head assembly comprising a printhead **10**, a platen **80**, a support **70**, and a first frame **20** slideably connected to said support **70**, wherein the printhead **10** is mounted on the first frame **20** (see Figure 1). Conner teaches a driver **41** for driving the first frame relative to the support to cause the printhead **10** to move in a linear direction relative to the platen **80** (see Figure 4) and also teaches a compressor **30, 32** arranged to exert a biasing force on the printhead **10**.

For claim 15, Conner teaches that the compressor is disposed between the first frame **20** and the printhead **10**. Figure 4 of Conner shows that the compressor **30, 32** is disposed between the top of the frame **20**, portion **23**, and the printhead **10**.

For claim 18, Conner teaches a third support 13 wherein the compressor 30, 32 is connected between the first support 20 (particularly part 23) and the third support 13.

Conner also teaches that the driver 41 drives the first 23 and the third frame 13 together, insofar as a pressure is exerted through the first frame 23 towards the third frame 13 to be transmitted to the print head 10.

For claim 19, Conner shows that the driver 41 drives the third frame 13 and the first frame 20, 23 closer together thus changing the pressure on the print head 10.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Conner (US PG Pub 2002/0080223).

For claim 20, Conner teaches all of the limitations of claim 20 as found in claim 18 above.

Conner shows that when the print head 10 abuts the substrate, it will pressure the third frame 13 towards the first frame 20, 23 and compress the compressor 30, 32. It would have been obvious to one of ordinary skill in the art to have the driver 41 exert a controlling driving force on the compressor and the third frame to prevent sudden and jarring motion in the apparatus.

6. Claims 16, 17 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conner (US PG Pub 2002/0080223) in view of Ando (US Patent 6,480,216).

For claim 16, Conner teaches all of the limitations of claim 16 as found in parent claim 14, however Conner does not teach a second frame the other of the platen and printhead being mounted on the second frame. However, Ando teaches a frame for supporting the platen **51**. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a frame for the platen to prevent it from falling out and allow for printing.

For claim 17, the combination of Conner and Ando teach all of the limitations of claim 17 as found in claim 16 above. While the present combination of Conner and Ando does not teach that a compressor is arranged to compressible support the second frame, the provision of a compressor to support frames movably is taught in both Conner (see above) and in Ando **61a**, **61b**. Additionally, whereas Conner teaches the provision of compressors for compressing the upper frame of the printing unit, Ando teaches compressors provided for a lower frame of the printing unit. It would have been obvious to one of ordinary skill in the art to provide compressors for both upper and lower frames of the printing unit to allow for adjustments on both ends for the height and pressure of the contact between the print head and the platen.

For claim 21, Conner teaches all of the limitations of claim 21 as found in parent claim 16. However, while Conner teaches that the first frame **20** being driven causes the compressor **30**, **32** to be compressed and that the compressor is additionally compressed when the print head abuts the image receiving substrate, it does not teach the support **70** to be arranged so that the frame **20** will be driven relative to the support **70**. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to rearrange the support **70** in a vertical fashion to provide for a thinner printing assembly. In that case, the vertical driving of the first frame would be relative the arrangement of the support **70**.

7. Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Conner (US PG Pub 2002/0080223) in view of Sims et al. (US Patent 6,380,965).

For claims 22 and 25: Conner teaches a print head assembly comprising a printhead **10**, a platen **80**, a support **70**, and a first frame **20** slideably connected to said support **70**, wherein the printhead **10** is mounted on the first frame **20** (see Figure 1). Conner teaches a driver **41** for driving the first frame relative to the support to cause the printhead **10** to move in a linear direction relative to the platen **80** (see Figure 4) and also teaches a compressor **30, 32** arranged to exert a biasing force on the printhead **10**. Conner does not teach a device for inputting data. However, Sims et al. teaches a device for inputting data (Figure 1) for a printing device and a control means for controlling the printing apparatus (column 2, lines 40-43). Thus, it would have been obvious to one of ordinary skill in the art to use the controlling device to control the initial position of the first frame and the print head in accordance with the input data to provide the appropriate style and pressure of printing in accordance with the type and size of the substrate.

For claim 23, Conner teaches a print head assembly comprising a printhead **10**, a platen **80**, a support **70**, and a first frame **20** slideably connected to said support **70**, wherein the printhead **10** is mounted on the first frame **20** (see Figure 1). Conner teaches a driver **41** for driving the first frame relative to the support to cause the printhead **10** to move in a linear direction relative to the platen **80** (see Figure 4) and also teaches a compressor **30, 32** arranged to exert a biasing force on the printhead **10**. Conner does not teach a device for inputting data. However, Sims et al. teaches a device for inputting data (Figure 1) for a printing device. It would have obvious to one of ordinary skill in the art at the time the invention was made to provide an input device for

inputting data for the purpose of controlling the printer based on conditions observed by an operator.

For claim 24: Sims et al. teaches a control means for controlling the printing apparatus (column 2, lines 40-43). Thus, it would have been obvious to one of ordinary skill in the art to use the controlling device to control the initial position of the first frame and the print head in accordance with the input data to provide the appropriate style and pressure of printing in accordance with the type and size of the substrate.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID BANH whose telephone number is (571)270-3851. The examiner can normally be reached on M-Th 9:30AM-8PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571)272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DHB  
October 24, 2008

/Daniel J. Colilla/  
Primary Examiner  
Art Unit 2854